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ABSTRACT

This study investigated effects of a nonsexist curriculum on preschoolers' dramatic role play behavior and usage of language and play space. A quasi-experimental design included two preschool groups, one of which received a treatment component that consisted of a nonsexist curriculum. The treatment group included 12 males and 10 females between 3.2 and 5.3 years of age. Control group subjects were 10 male and 11 female children between 3.1 and 5.1 years of age. Data were collected over four 5-day periods. Four vocational units that involved dramatic play on restaurant worker, fire-fighter, doctor, and polic officer (primary) roles and patron, victim, nurse, and offender (secondary) roles were used. Frequency counts of male and female participation in primary and secondary dramatic play roles were taken. Findings indicated that the curriculum heightened interest and nonsexist participation in dramatic play, but did not produce vocational dramatic play that was gender equal. It appeared that gender-segregated play groups were dominated by males, and that sex-typed toys may have limited female access to some play. Although the study met approved standards for providing children with opportunities to learn about gender, findings revealed the seemingly unyielding strength of children's sex-role stereotypes about vocation. (RH)

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AN INVESTIGATION OF THE EFFECTS OF A NON-SEXIST CURRICULUM ON ONE PRESCHOOL GROUP'S SEX-ROLE STEREOTYPICAL BEHAVIOR

(TITLE)

BY

JANICE E. KROEGER

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Abstract

The purpose of this research study was to investigate the effects of a non-sexist (androgenous) curriculum on preschool children's dramatic role play behavior, language usage, and play space usage. A quasi-experimental design included two preschool groups. A treatment component included a non-sexist curriculum taught to university students, and experimental group preschoolers.

The convenient sample of preschoolers attended a five-day, two hour session of a university child development laboratory, and were representative of a middle range of socio economic groups. 12 male and 10 female children between 3.2 and 5.3 years were in the experimental group. 10 male and 11 female children between 3.1 and 5.1 years were in the control group.

A set of data collection instruments were developed, data were gathered over a twenty day period. Each five-day period coincided with a parallel vocational theme within the curriculum. Vocational themes included restaurant, firefighter, hospital, and police officer play. Frequency counts were taken

of male and female participation in primary (restaurant worker, firefighter, doctor, and police officer) and secondary (patron, victim, nurse, and offender) dramatic play roles.

When comparing participation of males in roles between groups, all frequencies were higher in the experimental group. A statistically significant difference was seen within primary and secondary roles within the restaurant dramatic play. $X^2 = (1, N = 89) = 6.41, p < .05$.

When comparing participation of females in roles between groups, frequencies were mixed. Statistical significance was reached in the hospital and police play. $X^2 = (1, N = 70) = 8.55, p < .05$; $X^2 = (1, N = 66) = 4.76, p < .05$.

When comparing participation of males and females in roles within the experimental group, frequencies were mixed. Statistical significance was seen in restaurant play, hospital play, and police play. $X^2 = (1, N = 135) = 5.61, p$ .05; $X^2 = (1, N = 91) = 16.06, p < .05$; $X^2 = (1, N = 109) = 5.36, p < .05$.

When comparing participation of males and females in roles within the control groups, frequencies were mixed. Statistical significance was not seen in any dramatic play units.

Within four units of dramatic play for both children in the experimental group and children in the control group, no verbal initiators based on gender were apparent. Likewise, no verbal inhibitors based on gender were present.

Comparisons were made between male and female use of play space. Males in the experimental group used the family living area 54% of the time, females 46% of the time. Within the control group, males used the family living area 47% of the time, females used the area 53% of the time. When comparing usage of the block/truck area, experimental group males used this space 66% of the time, experimental group females used the area 33% of the time. Within the control group, males used the block/truck area 55% of the time compared to females who used this area 45% of the time.

In conclusion, the non-sexist curriculum may have heightened interest and excitement in dramatic play, and may have influenced children in taking non-traditional roles, but the curriculum did not produce units of dramatic play that were gender equal. It is possible that gender segregated play groups (Maccoby & Jacklin, 1987), sex-typed toys (Carpenter, Huston &

Holt, 1986), and the strength of children's sex-role stereotypical beliefs influenced results of this study.

CHAPTER I

Introduction

Origin of Study

Socialization for each individual is based around the concept of building a strong, healthy, stable sense of identity (Kaplan, 1980). One way that this ideal may be attained for both men and women in a pluralistic society is to allow for a wide variety of choices in behavioral possibilities.

A theory has been developed on the assumption that it is possible for an individual to adapt more fully to environmental demands by demonstrating many of the healthy characteristics of both sexes (Bem, 1983). This theory of Psychological Androgyny proposed by Sandra Lipsitz Bem (1976), was developed to free human beings from restricting sex-role stereotypes and to develop a conception of mental health which is free from culturally imposed definitions of masculine and feminine behavior.

One population of individuals in which sex-role stereotypes are strongly established behaviorally, and stereotypical knowledge has been demonstrated, is that of young children. It has been found that two and three year old children have a stereotypical base for matching traits, activities, and future roles to male and female figures (Kuhn, Nash, & Brucken, 1978). Preschool children clearly anticipate having stereotypical

vocational roles as adults (Papalia & Tennent, 1975), and are rarely seen demonstrating non-traditional vocational roles in their play (Adams, 1983).

When groups of preschool children have been presented with visual images of men and women in non-traditional careers, and asked to recall what they have seen, they largely distort the information to fit existing stereotypes (Papalia & Tennent, 1975; Halverson & Martin, 1983; Liben & Signorella, 1984). Preschool children's play groups have been criticized because of the polarization of boy's activities to low-teacher directed tasks, and girl's activities to high-teacher directed tasks (Beeson & Williams, 1979; Beeson & Williams, 1987).

Of the few studies related to preschool children and sex-role stereotypes, most are interpretations of children's knowledge, attitudes and behaviors; very few are designed to impact or positively influence children's stereotypes about what men and women can be vocationally, or how boys and girls can participate in the preschool play setting.

The purpose of this research study was to investigate the effects of a non-sexist (androgenous) curriculum on pre-school children's behavior.

Statement of the Objectives and Null Hypotheses

Several sets of objectives guided the study; the

first set was as follows:

Objective 1: to determine the frequency of children's participation in particular dramatic roles labelled as traditional and non-traditional within an experimental group.

Objective 2: to determine the frequency of children's participation in particular dramatic roles labelled as traditional and non-traditional within a control group.

Objective 3: to compare the frequencies of participation between the experimental and control group in roles labelled as traditional and non-traditional.

It was the intention of the researchers, as part of a larger investigation, to train college students to verbally praise children in the experimental group for participation in dramatic play. Through this method of praise it was hoped that children within the experimental group would experience heightened and expanded participation in non-traditional and traditional dramatic roles.

The following null hypotheses were generated to test the previous three objectives;

Hypothesis 1: There will not be a statistically significant difference between the participation of males in the experimental group to males in the control group demonstrating the roles of restaurant worker,

firefighter, doctor, and police officer.

Hypthesis 2: There will not be a statistically significant difference between the participation of females in the experimental group to females in the control group demonstrating the roles of restaurant worker, firefighter, doctor, and police officer.

Hypothesis 3: There will not be a statistically significant difference between the participation of males in the experimental group to males in the control group demonstrating the roles of patron, victim, nurse, and offender.

Hypothesis 4: There will not be a statistically significant difference between the participation of females in the experimental to females in the control group demonstrating the roles of patron, victim, nurse, and offender.

The second set of objectives that guided the study were as follows:

Objective 5: to compare the frequency of male and female children's participation in the primary roles of dramatic play within the experimental group.

Objective 6: to compare the frequency of male and female children's participation in the secondary roles of dramatic play within the experimental group.

Objective 7: to compare the frequency of male and

female children's participation in the primary roles of dramatic play within the control group.

Objective 8: to compare the frequency of male and female children's participation in the secondary roles of dramatic play within the control group.

One of the prevalent phenomenon of young children in play groups is the way in which they tend to group according to gender (Rubin, Fein, & Vandenberg, 1983; Maccoby & Jacklin, 1987; Beeson & Williams, 1979, 1987). It was the intention of the researchers, that children within the experimental group would be influenced to play in equal gender-mixed groups. The following null hypothesis' were generated to test the previous four objectives.

Hypothesis 5: There will not be a statistically significant difference between the participation of males in the experimental group to females in the experimental group in the roles of restaurant worker, firefighter, doctor, and police officer.

Hypothesis 6: There will not be a statistically significant difference between the participation of males in the control group to females in the control group in the roles of restaurant worker, firefighter, doctor, and police officer.

Hypothesis 7: There will not be a statistically significant difference between the participation of

males in the experimental group to females in the experimental group in the roles of patron, nurse, victim, and offender.

Hypothesis 8: There will not be a statistically significant difference between the participation of males in the experimental group to females in the experimental group in the roles of patron, nurse, victim, and offender.

The third and final set of objectives were as follows:

Objective 9: to describe any verbal initiating or inhibiting instances among children in both the experimental and the control group that are based on gender.

Objective 10: to describe play episodes and instances of children's participation in dramatic play that may promote further understanding about their willingness or unwillingness to take non-traditional roles based on their gender.

Objective 11: to compare and describe male and female use of the play space directly surrounding that area in which the data was collected for both the experimental and the control group.

One evident way in which children's thoughts and judgements are expressed is through their language

(Luria 1961). It was hoped that children's reactions to taking traditional and non-traditional roles for their gender would be apparent in their language. It is known that age trends are apparent in preschool children's interpersonal communication (Luria, 1983) The age trends of preschooler's language is to talk less to adults, and more to other children.

Related to describing children's thoughts and feelings about participation in vocational roles through language, it was thought that describing specific instances of children's play would serve to increase understanding about children's stereotypical or non-stereotypical knowledge. Both objective's 9 and 10 did not have inferential statistical treatment, they were described as observations of the researchers.

Within this study, the specific setting of data collection was the converted family living center, and the converted block/truck area. Within weekly units of data collection, each of these areas of the preschool classroom were converted to dramatic play centers. In previous literature (Adams, 1983, and Beeson & Williams, 1979, 1987) the family living area was used more often by girls than boys, the block/truck areas more often by boys than girls. Researchers in this study hoped to find insight into this phenomenon, and chose to reveal their findings about Objective 11 in a descriptive way.

Definition of terms

The following terms are those used throughout the study. Some are definitions used within the literature review, others are operational definitions that are pertinent to understanding of the instrument.

Sexism refers to "words or actions that arbitrarily assign roles or characteristics to people on the basis of sex" (The National Council of Teachers of English [NCTE], 1975).

Non-sexist refers to materials, actions, and words that eliminate sex as a basis for assigned roles or characteristics (NCTE, 1975).

Preschool children are children with chronological ages between two and five years (Smart & Smart, 1982).

A stereotype is a relatively rigid and simplified conception of behaviors and characteristics associated with one group of individuals, held by the self or another (Basow, 1980).

A role is a cluster of socially or culturally defined expectations that individuals in given situations are expected to fulfill (Basow, 1980).

A sex-role or gender-role stereotype is a rigidly held and oversimplified belief that males and females, by virtue of their sex, possess distinct psychological traits and characteristics (Basow, 1980).

Dramatic role-play behavior refers to instances when children express a make-believe role in imitative acts and words; they may use objects to facilitate these roles, they may substitute words for objects, acts, and situations. An element of sociodramatics may be present if at least two participants are involved, and there is verbal communication about the play (Smilansky, 1968).

At 3 to 4 years, the child can follow both initiating and inhibiting instructions. At about four years, when the child's own speech is well developed, he can use it to start and stop his own actions (Luria, 1961).

Verbal initiator and verbal inhibitors are operational definitions for this study. They have as their support that preschool children are in the process of developing a moral sense of self (Luria, 1961). This moral sense of self gives conviction to choices as good or bad (Piaget, 1960) and language becomes a mechanism of control over behavior judged as right or wrong (Luria, 1961).

A verbal initiator based on gender is a definition for any verbal action by one child that summons, requests, or solicits the involvement of another's activity based on the gender of either subject.

A verbal inhibitor based on gender is a definition for any verbal action by one child that attempts to restrain or check the involvement of another's activity based on the gender of either subject.

CHAPTER II

Review of Literature

The review of literature contains an overview of two popular theoretical models of sex-role development, a historical background of information, and a selection of current literature. The selections of research pertinent to this study have been phenomenological in nature and are discussed at greater length.

Theoretical Framework

The theories dealing with sex role stereotyping are diverse. Two theories of sex role development, cognitive-developmental theory and social-learning theory are appropriate to this study. They share a central idea, that certain activities because of their observational qualities, and the surrounding cultural influences, are encoded into memory as male-appropriate and female-appropriate.

Within the cognitive developmental theory, the child's cognitive organization of his social world along sex-role demensions becomes the foundation for which he or she develops basic sexual attitudes (Kohlberg, 1966).

This theory stresses the active nature of the child's thoughts as he or she organizes sex-role perceptions and sex-role learning around the basic

concept of physical body and social world. This theory stresses the importance of observational learning of social roles. It acknowledges and supports the notion that a selective, internally organized, rational schemata for classifying information is present in the individual. It also attests that modes of cognition about sex-roles and gender stereotypes change with age, and are the result of experience-linked changes in schematic thought (Kohlberg, 1966). Several phenomenological factors have been identified to support this theory, and are reported below.

Self-categorizations are made by physical reality judgements. Children label themselves as girl or boy at a relatively young age. The child initially does not apply the same categorization appropriately to others.

A set of cognitive judgements crystallize into a concept of a constant categorical knowledge between the ages of two and seven. The child does not conceive of his or her sex as an unchangable characteristic until she or he is five or six.

Once the child has established this firm sex role concept, feelings of competence and self-esteem begin to be associated with being like a class of same-sexed individuals. Sex-role stereotypes lead to the development of masculine and feminine values in children, and children tend to identify with like-sex

figures. The motivation to preserve a stable and positive self-image, consistent with cognitive structures, and physical-social reality of the culture is apparent. Children as young as 24 months old have been found to be able to consistently and correctly label pictures according to the gender of a photographed subject (Fagot & Leinbach, 1986). This has been interpreted to imply a categorical knowledge and possession of labels for gender, yet does not imply anything about the child's knowledge of the physiological basis of sex, or sex as a stable and permanent attribute.

Within a social-learning perspective, sex-typed behaviors are defined as behaviors that have different rewards for one sex or the other. In other words, sex-typed behaviors elicit different consequences from the environment (or the individual) depending on the gender of the performer (Mischel, 1966). Peers as well as teachers, sometimes knowingly or unknowingly punish for opposite sex behavior (Fagot, 1977; Roopnarine, 1984).

The learning principles applied to any aspect of an individual's behavior is similarly applied to gender-role acquisition (Mischel, 1966). This theory stresses the aquisition of sex-typed behavior in a predicatable pattern. First the child discriminates between masculine and feminine behavior. The child then

generalizes these specific behaviors to new situations. Direct and vicarious reinforcement give value to behavior, and the child incorporates this reinforcement into his or her behavioral repetoire. The imitation of models to varying degrees also influences gender-role behavior (Mischel, 1966).

An Anthropological Perspective

From an anthropological perspective, there are a wide variety of tasks and behaviors associated with being either female or male; all societies and cultures style these relationships differently (Mead, 1949).

When these roles fit well together, and the laws and customs, and practical possibilities are reasonable, men and women who live within these societies are fortunate (Mead, 1949). It is only when there are discrepancies in the two roles, or that one or the other is unobtainable, or that society cannot realistically train individuals for that ideal, that both men and women suffer.

Margaret Mead and many others have questioned (Katz, 1986; Block, 1984; Bem, 1983; and Kaplan, 1980), for our times as well as for the future, what realistic division of psychological behaviors are obtainable for individuals in this culture and what types of training will lead to the healthiest development of individuals.

Current Research

Current research in the area of sex-role stereotyping has been diverse. The research draws upon and supports the assumptions of cognitive and social learning theories, but is more complex in nature. The judgements of children clearly guide their thinking and behavior in the preschool setting. It is apparent that children's adherance to sex-typed ideologies begin early and are difficult to change.

Same-sex play groups

One aspect of preschool children's play that has been studied and interpreted over a number of years has been their tendency to group into same-sex play groups. This common segregation phenomenon is thought to occur because of a child's earlier socialization pattern and his or her toy and activity preference (Rubin, Fein, and Vandenberg, 1983). In a study by Maccoby and Jacklin, (1987), 4.5 year olds showed a substantial gender bias in their choice of playmates. At least one third of these children's time was spent in mixed sex-groups; yet it was primarily common to find children playing with same-sexed peers rather than opposite-sex peers. The same group of children were observed two-years later. The gender bias had become much stronger. At this age children were spending only about 6% of their social playtime in mixed pair groups. It is thought that while

these groups serve a number of useful functions for children, they may serve to amplify and extend the sex differences and stereotypes that initially exist between young girls and boys, and may provide a strong force against the formation of new cross-sex friendships (Maccoby & Jacklin, 1987).

Vocational projections by children, based on gender

In 1978, researchers Kuhn, Nash, and Brucken, tested seventy-two, two- and three-year-olds. When these children were asked to select a male or female paper-doll to match traits, activities, and future roles, their choices clearly demonstrated substantial knowledge of sex-role stereotypes. In a different study, children were asked questions about their vocational aspirations, they most often chose stereotypical roles. These included a range of roles for boys such as fireman, policeman, father, husband, dentist, astronaut, cowboy, truckdriver, engineer, baseball player, doctor, and superman. Girls responded with a less diverse range of roles including, mother, sister, nurse, ballerina, older person, dentist, teacher, baby sitter, baton twirler, ice skater, princess, and cowgirl (Papalia & Tennent, 1975). In a more recent study by Adams (1983), the same types of role play behavior were taken by children participating in the family living center of a pre-school facility.

Recall phenomenon and value judgements about non-traditional roles

When 48 kindergarteners were asked to recall pictures depicting males and females participating in traditional and non-traditional pictures, they very often distorted the sex- role inconsistent information to fit traditional stereotypes (Halverson & Martin, 1983). This recall phenomenon occurred within research previous to this study, as well as research after this study (Papalia & Tennent, 1975; Liben & Signorella, 1984) Questions may be raised about the strength of visual materials in influencing children's sex-role stereotypical behavior.

It is not known at what age children are the most accepting of non-traditional sex-role behavior, but young children (age 5) and adolescents (age 13) seem to judge sex- role violations as more wrong than do middle (age 8 and 10) age groups of children (Stoddart & Turiel, 1985).

Gender differences in group settings, or high and Low structured activities

The research about children's behavior in group settings over most of the past decade has maintained that preschool boys often participate in activities associated with low structure and, therefore, low teacher interaction. These activities include wheeled

vehicles, sand and water, blocks and climbing apparatus. Girls often participate in activities associated with high structure and, therefore, higher teacher interaction. These activities include houseplay, pre-reading activities, art projects, and table work (Beeson & Williams 1979; 1987).

Carpenter, Huston and Holt (1986) have interestingly manipulated the environment to allow preschool children who are adult-responsive, peer-responsive, or low-responsive to participate in a wider range of high and low structured activities. Children were encouraged to participate in high structured activities; these encouraged bids for recognition to adults, compliance to adults, and leadership attempts to adults. When these behaviors stabilized, the children were moved to a low structured activity. Low structured activities tended to encourage leadership attempts to peers, bids for recognition to peers, compliance to peer commands, aggression and physical initiatives. It seems as if all of these diverse behaviors are within a child's repertoire, yet because of the divisions that sometimes occur within boy's and girl's play, some behaviors do not get practiced and refined.

Teacher location also seemed to influence the 36, four-year-olds in a study by Citron, Connor, and Serbin (1981). In this study, girls frequently participated in

the doll play and art area, boys frequently participated in the truck and block play area. These areas were considered a sector, and within each, teachers either modelled play behavior, and invited children to participate, or simply sat in the sector and talked to those within. The teachers' presence and modeling was responded to in an equal fashion. Girls responded at higher rates than boys to both interventions, and boys responded less when the target sector had a "girl's toy". When this study was implemented one year later with male teachers as well as female teachers, no overall differences were found. Males tended to endorse "male" activities within a sector with a male teachers. This again indicates the powerful influence that teachers have on children's behavior, and also that girls may be more responsive to treatment conditions such as these.

Non-Sexist Curriculum

Non-sexist interventions in the classroom are thought by some to be the ideal, but are inconsistently achieved (Katz, 1986). Of those in practice, few address the needs of the young child. One non-sexist preschool program was developed which attempted to eliminate sex-stereotyping in room arrangement, classroom materials, curriculum units, and teacher behavior and language. The 10 members of the

experimental group showed less stereotyped replies according to an "occupational clue test", a "toy preference test", and an adapted "incomplete stories test" compared to a ten member control group. A significant difference was found only on the "occupational clue test". This indicated that the area of the program that produced the greatest impact on the children's attitudes was the introduction of a person holding a non-traditional career (Allen, 1978).

CHAPTER III

Methodology

General Research Hypothesis

The purpose of this research study was to investigate the effects of a non-sexist (androgenous) curriculum on preschool children's behavior. It was hypothesized that in introducing a non-exist program for a group of 3-5 year olds and the adults who work with them that stereotypical behavior within children's vocational dramatic play, and gender mixed play-groups would be altered to reflect a non-sexist ideology. Several objectives were developed to further understand children's verbal interactions, their willingness or unwillingness to take non-traditional roles for their gender, and to describe the use of observational play space by both male and female children in the study. Descriptive and inferential statistics were used in the study.

Research Design

A quasi-experimental design was applied to the study. Two groups of preschoolers were studied, an experimental and a control group. A treatment component included a non-sexist curriculum taught to the university students working with the experimental group as well as a non-sexist curriculum designed specifically for the experimental group.

Subjects

The sample was a convenient sample of preschoolers attending a five-day two-hour session of a university child development laboratory program and were representative of a middle range of socio-economic groups. The experimental group consisted of 12 male and 10 female children between the ages of 3.2 and 5.3 years. The control group consisted of 10 males and 11 females between the ages of 3.1 and 5.1 years.

Setting

The study was conducted in a child development laboratory at a midwestern university. This child development laboratory provides students in home economics and related fields practical experience working with preschool children and their families.

Specifically, the data collection occurred in two adjacent play areas divided by bi-fold shelf units within the preschool classroom. Within this study, the family living area and the block truck area were alternately modified to support dramatic play themes.

Description of the Curriculum

A non-sexist curriculum was designed for both the university students in the practicum class and the preschool children who were attending the lab school in the morning session during the spring semester of 1988. Specific details of this curriculum were identified

key variables, and became those which the instrument would measure.

Treatment Conditions

Two concurrent curricula were developed for the study. One of the curriculum was developed for the university students enrolled in the preschool class. The second was developed for the preschool children in the experimental group.

Description of the nonsexist curriculum for university students.

A curriculum for the adults working with the experimental group was developed. This treatment condition included instruction and discussion about the effects of stereotypes on children according to current and past research. The literature review present in this work provided the frame work from which a lecture was developed. The lecture was jointly presented by the instructor of the practicum class, who developed the curriculum materials, and her graduate assistant who developed the instruments upon which to measure the results of the study.

Not only did the curriculum provide a lecture on non-sexist ideology, but it provided the adults with a variety of alternative phrases to emphasize non-sexist language and the concept of psychological androgyny. A discussion period followed the lecture in which many

students shared their own ideas and experiences.

The university students were instructed to model a wide range of androgenous behaviors, and use non-sexist language when with the children. They were asked to invite an equal number of boys and girls to all activities and play spaces within the classroom. They were asked to reinforce a wide range of androgenous behaviors in both boys and girls, and use alternate he and she in stories, songs, and finger-plays. They were asked to read from a group of books showing a range of androgynous behaviors, and men and women in non-traditional vocational roles.

Description of the non-sexist curriculum for the preschoolers in the experimental group.

A curriculum directed at the children was also developed as a treatment condition. This curriculum included four sets of vocational dramatic play materials, a set of children's books depicting androgenous behaviors and men and women in non-traditional careers, and visits to the classroom by local men and women in traditional and non-traditional careers.

Four sets of dramatic play materials were made for the children in both the experimental and control groups. Each set of dramatic play materials was centered around a vocational theme.

One set of materials centered around a restaurant theme. These dramatic play props included; restaurant hats, aprons, playdough, plastic food, a stove, order pads, pencils, play coins and paper bills, restaurant cups, bags, and containers, two cash register and two telephones.

A second set of materials centered around a firefighter theme. These dramatic play props included; firefighter hats, oxygen masks with connecting tanks, many lengths of hoses, two telephones, pads of paper and pencils, several ladders and a climber.

A third set of materials centered around a hospital theme. These dramatic play props included; several child-sized doctor's jackets and hats, several child-sized nurse's smocks and hats, a black bag, plastic gloves, stethoscopes, medicine bottles, surgical masks, syringes, arm bands, blankets, cots, and x-ray pictures.

A fourth set of materials centered around a police officer theme. These dramatic play props included; police hats, child-sized jackets with police insignias, badges, handcuffs and keys, traffic ticket pads and pencils, finger print paper and ink pads, a play vehicle with a steering wheel, and a jail.

The materials in the library included a variety of books depicting men and women in non-traditional roles. The books were not ones readily available in the

existing library at the child development lab, but books borrowed from the city library. It was noted that not many resources of this type were available. The researchers resorted to modifying print to support non-sexist language, and modifying illustrations to support women in non-traditional roles.

It was intended by the researchers, that children in the experimental group would have the opportunity to observe adult models in traditional and non-traditional vocational roles during the four weeks of this curriculum. Ideally, this would have included male and female restaurant workers during week one, male and female firefighters during week two, male and female doctors and nurses during week three, and male and female police officers during week four.

Children in the experimental groups were able to see many male and female adult models with their uniforms and equipment, but because of time factors and the actual instances of men and women in non-traditional roles in this community, the ideal was not achieved.

Those visiting community members in traditional and non-tradional roles included a male nurse, a female nurse, two male emergency medical technicians, a male police officer, and a female police officer.

The nurses involved in this effort were from a local hospital, and happened to be the parents of one of

the children in the experimental group. They brought their uniforms and equipment. They demonstrated how the uniforms were worn; how they were special; and why they were important to their work. They demonstrated various pieces of medical equipment such as a cast remover, a blood pressure band, an electrical thermometer, and a stethoscope.

The firefighters involved in this effort were from the community fire department. They were two male emergency medical technicians. The children were shown the EMT's uniform, complete with insignias, badges, reflective trim, and numerous pockets to hold equipment. The EMT's gave the children the opportunity to climb through their ambulance, they demonstrated how a face mask was worn, they opened storage compartments and pulled out items used to treat injuries. Toward the end of the visit, one EMT told the children that they would need to go to a special school to become a firefighter, or an EMT. He said that a person must be very strong and brave, and that little girls and little boys can grow up to be good firefighters. He asked girls and boys if they thought they might like to do that when they grew up.

The police officers involved in this effort visited on two separate occasions. At the beginning of the week, a female county police officer visitted the

classroom. She drove up in a squad car that was visible to the children. She was introduced, to the group as Mrs.__. She said, "hello," and asked the children questions about her occupation. When someone finally said she was a "policeman" she corrected them by saying that she was a police officer. She showed them parts of her uniform, the hat, the badge, the belt, the gun, and her special clothing. She showed the children miniature traffic symbols and discussed simple safety procedures like crossing streets, locking doors and windows, and wearing seatbelts. She asked some of the children what their moms and dads did at work, and ended the visit with a reminder that girls and boys could be police officers when they grew up. She said, " It was an officer's job to help people."

The second police officer that visitted was the father of one of the children in the experimental group. He brought his squad car. He showed the children his dispatch radio and demonstrated how it worked. The children listened to the siren of the squad car. They sat inside the car, and took turns being the "driver". At the end of the demonstration, the police officer told the children to remember not to run out into the street when they heard a siren, but to stay close to the sidewalk or their house. He ended his visit by saying, that he hoped some of the children

would be police officers one day.

Data Collection Instruments

The following section is devoted to the development of the instrument. It contains information regarding the description of the instrument, the pretesting of the instrument, the selection and training of observers, the refinement of definitions within the instrument, and the process of reaching the predetermined inter-observer reliability level of .90.

Description of the Set of Data Collection Instruments

A set of data collection instruments were developed, and data were gathered over a four week time period. Each week of this time period coincided with a parallel vocational theme within the non-sexist curriculum. More specifically, those vocational themes and data collection times included one five-day period of restaurant dramatic play and data collection (appendix A), one five-day period of firefighter dramatic play and data collection (appendix B), one five-day period of hospital dramatic play and data collection (appendix C), and one five-day period of police officer dramatic play and data collection (appendix D). Although each week of vocational dramatic play called for a separate instrument, the variables remained constant.

General description of the data collection instruments and variable sections.

The four instruments within this study had several parallel components, yet were distinguished by the roles and props noted on each instrument. The following section will give a descriptive definition of each component area within the four data collection instruments. These variables included the demographic information section, children's use of dramatic props and participation in dramatic roles, and the gender-related comments section.

Variable section 1.

The demographic information section contained six information entries. Five of the entries were to be completed by the observer prior to data collection. These entries consisted of the current date, the observer's initials, the setting in which the observation occured, (either the converted family living center or the block/truck center), and the time which the observer started data collection. The last entry in the demographic information section was to tell what time data collection was completed.

Variable section 2.

The prop use and dramatic role section contained numerous areas for data entry. The dramatic roles section denoted a separation between a "primary" and a

"secondary" role within each five day period of dramatic play. Those primary roles became restaurant worker, firefighter, doctor, and police officer. Those secondary roles became patron, victim, nurse, and offender. A final category of role taken was the "unknown".

Male and female children in both the experimental and the control group were coded with an individual letter of the alphabet that was attached to their name tag. Each child that participated in dramatic play, was given an absolute role for each time segment of participation. Recording their prop use aided in the detection of their role play behavior, and the calculation of inter-observer reliability.

The time frame in which data was collected became crucial to the uniformity of the study. A "segment" was a unit of five minutes of data collection. The units of time between data collection were expressed on the collection sheet as vertical bars, and lasted three minutes. On each day, of the five days, within a period of dramatic play, twenty-five minutes of data was collected in both the experimental group and the control group.

The respective five minute time segments were labelled #1, #2, #3, #4, and #5.

Variable section 3.

There was a final section that was labelled "gender-related comments". This section was intended to gather any inhibitive or initiating comments based on gender from any child. These could have been comments that were inner directed, or toward another.

Pilot-testing the Instruments

A graduate research assistant in The School of Home Economics at this same university was chosen to pilot-test the instrument. The pilot-testing occured during one morning session of preschool, when hospital play was in progress. To insure the content validity of the instrument, she was told that the instrument was an observational one, and that her own interpretations of the children's dramatic roles were to be used. She was to record children's play prop use, and determine gender-related comments as she heard them. She was asked to experience several lengths of time segments, a three minute, a five minute, and a seven minute segment of observation. At the end of this period, the graduate assistant and the researcher responsible for designing the instrument discussed the progress of the initial observation. They simultaneously observed two consecutive five minute segments. At the end of these two segments of time, the inter-observer agreement was tallied at a .45 level of agreement.

Further Refinement of the Instrument

After the pilot-testing of the instrument, several factors became apparent about the data collection instrument and the procedures. It was clear when children were taking dramatic play roles. These roles were easily distinguished from each other. It was also apparent when children used play props. More ambiguous play behavior did occur, such as when children came into the play space and quickly left or when children were in the play area yet did not use props or have interaction with other children. The setting needed to be defined more clearly, and the observer needed more practice recording observations. Three minutes of observation were not enough to note all of the children involved, and seven minutes of observation became too cumbersome to code. The instrument was revised to include larger spaces allowing for coded symbols.

Selection and Training of Observers

Selection of Observers

One male and two female observers were selected for this study. They were undergraduate students at the university, and each had experience with the children in either preschool class. They were either Home Economics or Elementary Education majors. They were selected based on availability, and rapport with children.

Training of Observers

The initial training began by introducing the observers to the research design. The non-participant observers were responsible for collecting observations on two groups of preschool children for the training period, and the remainder of the academic semester. They were not told the objectives of the study, but were responsible for understanding each component of the observation sheet, and taking accurate data.

The four instruments were described to the observers. The following section of this chapter denotes the initial training on each segment of the data collection instrument.

Section #1.

The first section was introduced, each entry was fully explained. The demographic information of this section was noted.

Section #2.

The second segment of the instrument was then explained. To aid in this, a 20 minute videotape of the experimental group's dramatic restaurant play was used. Observers were told that each child's name tag was coded with a letter, and that when the child was seen engaging in a dramatic play role, their code letter was to be put into the corresponding role space. The boy's code letters were plain lowercase letters, the girl's code

letters were lower case letters circled. The children's prop use was to be coded on the observation sheet also. The observers were told that the props would later serve as a useful indicator of children's roles. Children were to be recorded in only the primary, or secondary roles of play. The neutral role could serve as an entry until the child's role became clear.

Section #3.

The final segment of the data collection instrument was explained. The observers were told that they were to record any inhibitive or inviting statements based on gender that they heard during children's role play. They were given definitions of these, and several examples.

At the end of the initial training session, the observers were told the importance of inter-observer reliability. Prior to the actual data collection, the observers would reach 90% agreement by an inter-observer reliability method developed by Medinnus (Medinnus 1976, p. 64). This formula is shown below.

$$\left(\frac{\text{Number of agreements}}{\text{Number of agreements} + \text{Number of disagreements}} \right) \times 100$$

Observers were responsible for meeting with other observers after each observation to find out what the inter-observer agreement was. Then as a group, they

would clarify dramatic play roles, discuss individual and group discrepancies in the observations, and further define each component area on the data collection instrument.

All training observations were executed within the experimental and control groups of children. A schematic calendar denotes each training session, which group of children were involved, the dramatic theme of the observation, the observers involved in the training session, and their final inner-observer agreement (Table 1).

Table 1

Composite Observer Training Schedule

date	group	theme	observers	agreement
2-22-88	a.m.	rest.	A,B,D	41%
2-23-88	p.m.	hosp.	A,B,D	74%
2-25-88	p.m.	rest.	A,B,D	71%
2-26-88	a.m.	rest.	A,B,D	72%
3-03-88	a.m.	rest.	C,D	87%
3-03-88	p.m.	rest.	A,B,C,D	67%
3-08-88	p.m.	fire.	A,B,C,D	77%
			A,D	72%
			B,D	92%
			C,D	86%
3-10-88	a.m.	fire.	A,C,D	77%
			A,D	92%
			C,D	84%
3-10-88	p.m.	fire.	B,D	94%
			C,D	87%
3-15-88	a.m.	rest.	C,D	98%

Final Behavioral Description of Dramatic Role Play

After each training session, the observations were analyzed. At a later session, the descrepancies were discussed. At this time the observers agreed on specific behaviors representing each dramatic play role.

Restaurant dramatic play: unit 1.

The setting for restaurant dramatic play was within a 20 by 20 foot area. This area, converted with restaurant props, was the family living dramatic play area within the classroom.

A restaurant worker, was any child in the restaurant area engaging in dramatic play with restaurant props or using dramatic dialogue centered around the theme (ie. making food, taking orders, giving other children food items.). The child could also label himself or herself a restaurant worker.

A patron was a child in the area, engaging in dramatic play with props, who was the recipient of another child's delivery. These children were further defined based on their language, (I want a cheeseburger, fries,....etc) and were often carrying play money, and standing by the register.

Unknown children were those who quickly came and went in the area without participating in dramatic play, or who engaged in observing other children's dramatic play.

Firefighter dramatic play: unit 2.

The setting for firefighter dramatic play was an area adjacent to the family living center. This area was also approximately 20 by 20 feet in size and was the block/truck center of the classroom before being converted by dramatic play.

A firefighter was any child engaging in dramatic play with the firefighter props, or using dramatic dialogue centered around a firefighter theme. These children were answering the telephone, spraying hoses, and climbing on the climber.

A victim was any child who was asking for help, or was pretending to be hurt.

Unknown children were those in the area who quickly came and went without participating in dramatic play, or those children who observed other children's dramatic play. Children climbing on the climber without props or themeatic dialogue were considered to be in the unknown role.

Hospital dramatic play: unit 3.

The setting for hospital dramatic play was the converted family living area.

A doctor was any child engaging in dramatic play with the doctor's props. This child would also be identified by his or her own labelling of particular play (ie "I will be the doctor").

A nurse was any child engaging in dramatic play with the nurse's props. This child would also be identified by his or her own labelling of the play (ie. child says to self, "It is time for the nurse to take care of the baby" as he or she cares for the doll.).

Attending behavior was seen within much of the dramatic play. Because these children used a mixture of doctor's or nurses props, and they did not label their role, they were treated as "unknown attending behavior".

A patient was any child asking for treatment, pretending to be sick or hurt, etc.

A final "other" category was for children in the area who were not engaging in dramatic play, or using props, but who quickly came and left, or who observed other children in play.

Police dramatic play: unit 4.

The setting for police officer dramatic play was the converted block/truck area.

A police officer was any child engaging in dramatic play with the police officer props, or any child engaging in dialogue centered around a police officer theme ("I want to be a police"). Police officers were seen writing tickets, putting teachers in jail, making finger prints etc.

An offender was any child using dramatic play props who was the recipient of a police officers reprimands.

Unknown children were those children in the area who quickly entered the area and left, or who observed other children's play.

Data Collection Procedure and Schedule

The observers of the study reached an inter-observer reliability level of .90 at different points during the training sessions. As these agreement levels were reached, the treatment condition was implemented. Observers were scheduled by availability. This treatment condition, which consisted of four five-day dramatic vocational themes, lasted for twenty days. Table 2 represents the procedure for data collection including dates, groups, themes, observers, and several inter-observer reliability retest scores (see Table 2).

Data Processing and Analysis

The variables for hypotheses 1-4 and 5-8 were coded. Frequency counts were taken of male and female instances of play in primary and secondary roles by week of the treatment and experimental condition. Data was analyzed according to a Chi-square test of independence, and is illustrated in in 2x2 tables. The level of significance was predetermined at a .05 level. The computer program for statistical analysis, KWICKSTAT, was used. Tables clarify and illustrate the frequencies of children's participation.

Table 2

Composite Calendar of Events and Observations

date	group	theme	observer	(s)	agreement
3-14-88	A	rest.	D		
3-14-88	B	rest.	D		
3-15-88	A	rest.	D	(C,D)	98%
3-15-88	B	rest.	B		
3-16-88	A	rest.	B		
3-16-88	B	rest.	A		
3-17-88	A	rest.	A		
3-17-88	B	rest.	B		
3-18-88	A	rest.	A		
3-18-88	B	rest.	D		
3-28-88	A	fire.	B		
3-28-88	B	fire.	A		
3-29-88	A	fire.	B		
3-29-88	B	fire.	C		
3-30-88	A	fire.	A		
3-30-88	B	fire.	D		
3-31-88	A	fire.	C		
3-31-88	B	fire.	C		
4-01-88	A	fire.	B		
4-01-88	B	fire.	D		
4-05-88	A	hosp.	C		
4-05-88	B	hosp.	B		
4-06-88	A	hosp.	B		
4-06-88	B	hosp.	D		
4-07-88	A	hosp.	C		
4-07-88	B	hosp.	C	(C,D)	93%
4-08-88	A	hosp.	B		
4-08-88	B	hosp.	D	(A,D)	83%
4-11-88	A	hosp.	B		
4-11-88	B	hosp.	A		
4-12-88	A	P.O.	C		
4-12-88	B	P.O.	C		
4-13-88	A	P.O.	B		
4-13-88	B	P.O.	A		
4-14-88	A	P.O.	C		
4-14-88	B	P.O.	A		
4-15-88	A	P.O.	B		
4-15-88	B	P.O.	A		
4-18-88	A	P.O.	B	(B,D)	90%
4-18-88	B	P.O.	A	(A,D)	95%

Verbal initiating and inhibiting statements as well as gender-related comments listed in Objectives 9 and 10 are reported by instance. A narrative description of various play episodes are included, as well as, supportive findings from current literature. The variables listed in objective 11 are illustrated according to a bar graph, and are supported by current research findings.

CHAPTER IV

Results and Discussion

The purpose of this study was to investigate the effects of a non-sexist curriculum design on one preschool group's behavior. This chapter is divided into three major sections. Within the chapter, these sections are as follows; 1) The first section presents the results of the analysis of children's dramatic role play behavior between like gendered children in the experimental and control group; more specifically, Hypotheses 1-4. 2) The second section presents the results of the analysis of children's dramatic role play behavior within the experimental and control groups between unlike gender; more specifically, Hypotheses 5-8. 3) The third and final section of this chapter describes the results and analysis of the gender-related comments section, specific play episodes, and reactions to the curriculum, as well as, children's use of play space directly within the data collection area; more specifically, Objectives 9, 10 and 11. Each section contains discussion, and the limitations of the study are discribed at the end of the chapter.

Analysis of Children's Role Play Behavior Between Groups

The first set of objectives under investigation

was to determine frequencies of children's participation in dramatic vocational roles, and to compare these frequencies between an experimental and a control group. To organize the analysis of Hypotheses 1-4, results are first divided by gender.

Hypothesis 1 states: There will not be a statistically significant difference between the participation of males in the experimental group to males in the control group demonstrating the role of restaurant worker, firefighter, doctor, and police officer.

Hypothesis 3 states: There will not be a statisticaly significant difference between the participation of males in the experimental group to males in the control group demonstrating the role of patron, victim, nurse, and offender.

To get a clearer analysis of male participation in the study, the role variables in hypothesis 1 and 3 were further separated into individual paired roles for each curriculum unit. A Chi-square test of independence was utilized to investigate the relationship between the males in the experimental group and the control group in the primary and secondary paired roles of restaurant worker, patron (unit 1); firefighter, victim (unit 2); doctor, nurse (unit 3); and police officer, offender (unit 4). Table 3 through 6 contain these results.

Table 3

Comparison of Male Children in the Experimental Group to Male Children in the Control Group: Restaurant Play

	Experimental		Control		Total	
Role	n	%	n	%	n	%
Worker	51	(57.3)	22	(24.7)	73	(82)
Patron	16	(18.0)	0	(0.0)	16	(18)
Total	67	(75.3)	22	(24.7)	89	(100)

The males in the experimental group participated 51 times in the primary role of restaurant worker, while the males in the control group participated 22 times. Males in the experimental group chose the role of patron considerably less often than the role of worker. Males in the experimental group participated 16 times in the role of patron, while none of the males in the control group chose this role.

The Chi-square test of independence found significanct differences between males in the experimental group to males in the control group involved in primary and secondary roles in restaurant dramatic play. The chi-square value of 6.41 with 1 degree of freedom was significant at the .006 level; therefore, the null hypothesis was rejected.

Table 4

Comparison of Male Children in the Experimental Group to Male Children in the Control Group: Firefighter Play

	Experimental		Control		Total	
Role	n	%	n	%	n	%
Fire	59	(75.6)	17	(21.8)	76	(97.4)
Victim	2	(2.6)	0	(0.0)	2	(2.6)
Total	61	(78.2)	17	(21.8)	78	(100.0)

Males in the experimental group participated in the role of firefighter more than 3 times as often as males in the control group. The primary role frequency for experimental group males was 59 times compared to a frequency of only 17 times in the control group. Males in the experimental group participated in the victim role 2 times. Males in the control group did not participate at all in the role of victim.

The chi-square test of independence found no significant difference between males in the experimental group to males in the control group involved in primary and secondary roles in firefighter dramatic play. The chi-square value of 0.57 with 1 degree of freedom, was above the .05 level of significance; therefore, the results fail to reject the null hypotheses.

Table 5

Comparison of Male Children in the Experimental Group to Male Children in the Control Group: Hospital Play

	Experimental		Control		Total	
Role	n	%	n	%	n	%
Doctor	27	(56.3)	8	(16.7)	35	(72.9)
Nurse	13	(27.1)	0	(0.0)	13	(27.1)
Total	40	(83.3)	8	(16.7)	48	(100.0)

The males in the experimental group participated in the primary role of doctor 3 times as often as the males in the control group. The experimental to control group comparison showed 27 frequencies to 8 frequencies in the role of doctor. The comparison of frequencies for the role of nurse shows that males in the experimental group did engage in this role 13 times. Males in the control group did not participate at all.

The chi-square test of independence did not show a significant difference between males in the experimental group to males in the control group involved in primary and secondary roles of hospital dramatic play. The chi-square value of 3.57 with 1 degree of freedom, did not show significance below the .05 level, Therefore the results failed to reject the null hypothesis.

Table 6

Comparison of Male Children in the Experimental Group to Male Chidren in the Control Group: Police Play

	Experimental		Control		Total	
Role	n	%	n	%	n	%
Officer	66	(48.5)	54	(39.7)	120	(88.2)
Offender	12	(8.8)	4	(2.9)	16	(11.8)
Total	78	(57.4)	58	(42.6)	136	(100.0)

The police dramatic play unit showed higher frequencies of participation than ony other unit. These frequencies also provided a closer comparison for primary role between males than any other. The experimental group males were officers 66 times compared to the control group males who were in this role 54 times. The secondary role of offender was less popular for both groups, with a frequency count of 12 for the experimental group and 4 for the control group.

The chi-square test of independence did not find a significant difference in the combined primary and secondary roles for the police unit. The chi-square value of 2.31 with 1 degree of freedom was not significant at the .05 level; therefore, the results fail to reject the null hypothesis.

Male participation in roles between groups.

When comparing the participation of males in the primary roles of restaurant worker, firefighter, doctor, and police officer, between the experimental group and the control group, all frequency counts were higher. The secondary roles of patron, victim, nurse, and offender were also substancially higher. It suggests that the non-sexist curriculum provided in the experimental group may have encouraged male's interest and participation in dramatic play. The one unit that showed a significant difference within primary and secondary role, according to the Chi-square test of independence, was the restaurant dramatic play (see table 3).

Within unit 3, nurse, an atypical choice for boys, (Adams, 1983, Papalia & Tennent, 1979) was a popular role for the males in the experimental group and not participated in at all for the control group males (see table 6). It appeared that the adult male nurse did provide these boys with an option to their dramatic play.

High frequency counts indicate that the police officer and firefighter play seemed to be the most exciting to boys in the experimental group (see table 4 and 6). These two vocational aspirations are common choices for boys in one previous study (Papalia &

Tennent, 1979).

Since the samples for these unit roles were relatively small, the data were further analyzed by combining the male participation in all four of the primary and secondary dramatic play roles. Again, with this larger sample size, the Chi-square test of independence was utilized. Table 7 contains this information.

Table 7

Comparison of Male Children in the Experimental Group to Male Children in the Control Group: Four Units of Dramatic Play

	Experimental		Control		Total	
Role	n	%	n	%	n	%
Primary	203	(57.8)	101	(28.8)	304	(86.6)
Secondary	43	(12.3)	4	(1.1)	47	(13.4)
Total	246	(70.1)	105	(29.9)	351	(100.0)

When the primary role frequencies of restaurant worker, firefighter, doctor and police officer were combined, males in the experimental group participated a total of 203 times within four units of play. Males in the control group participated less than half as often, for a total of 101 frequencies.

The secondary role frequencies of patron, victim, nurse, and offender were also totalled. Males in the experimental group participated 43 times compared to the control group which participated only 4 times.

The Chi-square value of the test was 11.86. This indicates that within the four weeks of dramatic play, males in the experimental group participated in primary and secondary roles below the .05 level, therefore hypotheses 1 and 3 were rejected (see table 7).

Hypothesis 2 states: There will not be a statistically significant difference between the participation of females in the experimental group to females in the control group demonstrating the roles of restaurant worker, firefighter, doctor, and police officer.

Hypothesis 4 states: There will not be a statistically significant difference between the participation of females in the experimental group to females in the control group demonstrating the roles of patron, victim, nurse, and offender.

The role variables in hypotheses 2 and 4 were further separated into individual paired roles for each curriculum unit. A chi-square test of independence was utilized to investigate the relationship between the experimental group females and the control group females in primary and secondary paired roles of restaurant

worker, patron (unit 1), doctor, nurse (unit 3), police officer and offender (unit 4). A chi-square test was not used on the female participation in unit 2. In this case the sample size was not large enough. Tables 8 through 11 contain these results.

Table 8

Comparison of Female Children in the Experimental Group to Female Children in the Control Group: Restaurant Play

	Experimental		Control		Total	
Role	n	%	n	%	n	%
Worker	62	(61.4)	32	(31.7)	94	(93.1)
Patron	6	(5.9)	1	(1.0)	7	(6.9)
Total	68	(67.3)	33	(32.7)	101	(100.0)

The females in the experimental group participated in the primary role of restaurant worker nearly 2 times as often as those in the control group. The females in the experimental group participated in the primary role 62 times and the control group 32 times. Females in the experimental group chose the secondary role of patron 6 times, while the control group females chose it once.

The Chi-square test of independence found no significant difference between females in the experimental group to females in the control group

involved in primary and secondary roles of restaurant dramatic play. The chi-square value of 1.16 with one degree of freedom, was above .05 level of significance; Therefore, the results fail to reject the null hypothesis.

Table 9

Comparison of Female Children in the Experimental Group to Female Children in the Control Group: Firefighter Play

	Experimental		Control		Total	
Role	n	%	n	%	n	%
Firefighter	29	(63.0)	17	(37.0)	46	(100.0)
Victim	0	(0.0)	0	(0.0)	0	(0.0)
Total	29	(63.0)	17	(37.0)	46	(100.0)

Females in the experimental group participated in the primary role of firefighter more often than females in the control group. The frequency count of females in the experimental group was 29, compared to a frequency of 17 for the control group. Both groups of females showed no participation in the secondary role of victim.

The frequency counts within this unit of dramatic play for females was low. Samples within primary and secondary roles were so low in fact that a chi-square

analysis was not possible. Data from this unit was included in a total chi-square analysis for the combined units of dramatic play (see table 11).

Table 10

Comparison of Female Children in the Experimental Group to Female Children in the Control Group: Hospital Play

	Experimental		Control		Total	
Total	n	%	n	%	n	%
Doctor	13	(18.6)	12	(17.1)	25	(35.7)
Nurse	38	(54.3)	7	(10.0)	45	(64.3)
Total	51	(72.9)	19	(27.1)	70	(100.0)

Females participated in the primary role of doctor to nearly the same degree. Females in the experimental group chose the role of doctor 13 times; females in the control group chose the role 12 times. A difference was seen between both groups in the secondary role of nurse. Females in the experimental group chose the nurse role in their play 38 times compared to the females in the control group who took this role 7 times.

The Chi-square test of independence found a significant difference between females in the experimental group and females in the control group in primary and secondary roles within hospital dramatic

play. The chi-square value of 8.55 with 1 degree of freedom was significant at the .004 level; therefore, the null hypothesis was rejected.

Table 11

Comparison of Female Children in the Experimental Group to Female Children in the Control Group: Police Play

	Experimental		Control		Total	
Role	n	%	n	%	n	%
Officer	31	(47.0)	30	(45.5)	61	(92.4)
Offender	0	(0.0)	5	(7.6)	5	(7.6)
Total	31	(47.0)	35	(53.0)	66	(100.0)

Similar to the hospital unit, females in the police unit engaged in primary roles to a near equal degree. Females in the experimental group chose this role 31 times compared to the control group which chose the role 30 times. Within the secondary role of offender, females in the experimental group chose this 0 times compared to a frequency of 5 times for females in the control group. A difference was reached, showing the control group's participation as higher.

The Chi-square test of independence found a significant difference between females in the experimental group to females in the control group in

primary and secondary roles within police dramatic play. The chi-square value was 4.79 with 1 degree of freedom. The significance was at the .036 level; therefore, the null hypothesis was rejected.

Female participation in roles between groups.

When comparing the participation of females in the experimental group to females in the control group, the frequency counts of particiapation in the primary roles of restaurant worker and firefighter are higher within the experimental group (see table 8 and 9), but in the case of doctor and police officer, frequencies were nearly equal between both groups (see table 10 and 11). Female comparisons contrast the male comparisons which were as much as 2 times greater between groups. This may reflect the prevalence of gender stereotypes in preschool children's thoughts about the vocational roles of doctor and police officer (Papalia & Tennent, 1979, and Cordua, Mcgraw, and Drabman, 1979). These totals may reflect the impact of a gender segregated play group on female children's behavior (Roopnarine, 1984). It may indicate that females would have been more likely to participate in the role of police officer and doctor if their same-gendered peers would have participated (La Freniere, Strayer, & Gauthier, 1984).

The frequency counts of participation in the secondary roles of patron, victim, and nurse were higher

within the experimental group. The secondary role of offender was higher for the control group. One noteworthy point is the extremely high rate at which females in the experimental group chose the nurse role (see table 10). This probably reflects the presentation of the adult female nurse, as well as, the stereotypical knowledge that children possess about the nurse vocation (Cordua, Mcgraw, and Drabman, 1979).

Two units showed a statistically significant difference between experimental and control females within primary and secondary roles, according to the chi-square test of independence. Significance was reached in the hospital unit because of higher frequency totals in the doctor and nurse roles for experimental group females (see table 10). Contrary to the previous trend of higher participation in the experimental groups, significance was reached in the police officer unit because of a higher rate of participation by the control group (see table 11) in police officer and offender roles.

Sample of most unit roles were small, the data were analyzed by combining the female participation in all four of the primary and secondary dramatic play roles. A Chi-square test of independence was utilized.

Table 12

Comparison of Female Children in the Experimental Group to Female Children in the Control Group: Four Units of Dramatic Play

	Experimental		Control		Total	
Role	n	%	n	%	n	%
Primary	135	(47.7)	91	(32.2)	226	(79.9)
Secondary	44	(15.5)	13	(4.6)	57	(20.1)
Total	179	(63.3)	104	(36.7)	283	(100.0)

When frequency counts of participation in primary dramatic roles of restaurant worker, firefighter, doctor, and police officer were combined, females in the experimental group participated 135 times. Females in the control group participated 91 times. Frequency totals for the secondary roles of patron, victim, nurse, and offender showed experimental group females participating 44 times. Contrary to this, females in the control group participated only 13 times.

When the unit primary and secondary totals for females in the experimental and females in the control group were tested for significance, a chi-square value of 5.97 with one degree of freedom was reached. This value was significant at the .010 level, therefore, the null hypotheses 2 and 4 were rejected.

Analysis of Children's Role Play Behavior Within Groups

The second set of objectives under investigation was to determine and compare frequencies of male and female participation in dramatic roles within each group. To organize Hypotheses 5-8, results were first divided by group.

Hypothesis 5 states, There will not be a statistically significant difference between the participation of males in the experimental group to females in the experimental in the roles of restaurant worker, firefighter, doctor, and police officer.

Hypothesis 7 states, There will not be a statistically significant difference between the participation of males in the experimental group to females in the experimental group in the roles of patron, victim, nurse, and offender.

Hypothesis 6 states, There will not be a statistically significant difference between the participation of males in the control group to females in the control group in the roles of restaurant worker, firefighter, doctor, and police officer.

Hypothesis 8 states, There will not be a statistically significant difference between the participation of males in the control group to females

in the control group in the roles of patron, victim, nurse, and police officer.

The role variables in Hypotheses 5 through 8 were further separated into individual paired roles for each curriculum unit. A Chi-square test of independence was utilized to determine the significant difference between males and females within each group in the primary and secondary paired roles of restaurant worker, patron (unit 1); firefighter, victim (unit 2); doctor, nurse (unit 3); and police officer, offender (unit 4). Tables 12 through 19 alternately present unit results for experimental and control group.

Table 13

Comparison of Male Children to Female Children in the Experimental Group, Restaurant Play

	Male		Female		Total	
Role	n	%	n	%	n	%
Worker	51	(37.8)	62	(45.9)	113	(83.7)
Patron	16	(11.9)	6	(4.4)	22	(16.3)
Total	67	(49.6)	68	(50.4)	135	(100.0)

The females in the experimental group participated in the primary role of restaurant worker 62 times, compared to the males who participated 51 times. This

slightly higher participation by females is contradicted in the secondary role, when males were seen taking the patron role 16 times compared to females who took the role only 6 times.

Significant differences between males and females in the primary and secondary roles of restaurant dramatic play existed. The Chi-square value of 5.61 with 1 degree of freedom was significant at the .016 level; therefore, the null hypothesis was rejected.

Table 14

Comparison of Male Children to Female Children in the Control Group, Restaurant play

	Male		Female		Total	
Role	n	%	n	%	n	%
Worker	22	(40.0)	32	(58.2)	54	(98.2)
Patron	0	(0.0)	1	(1.8)	1	(1.8)
Total	22	(40.0)	33	(60.0)	55	(100.0)

The females in the control group, likewise participated in the primary role more often than males. Females took the role of restaurant worker 32 times compared to males who took this role only 22 times. The males did not participate in the secondary role at all, compared to the females who participated one time.

Unlike the experimental group results, no significant difference between the males and females involved in primary and secondary roles of dramatic play in the restaurant unit was found. The chi-square value of 0.68 with 1 degree of freedom was above the .05 level of significance; therefore, the results fail to reject the null hypothesis.

Table 15

Comparison of Male Children to Female Children in the Experimental Group, Firefighter Play

	Male		Female		Total	
Role	n	%	n	%	n	%
Firefighter	59	(65.6)	29	(32.2)	88	(97.8)
Victim	2	(2.2)	0	(0.0)	2	(2.2)
Total	61	(67.8)	29	(32.2)	90	(100.0)

Males in the experimental group were seen taking the firefighter role almost 2 times as often as females. The frequency counts of 59 to 29 created a substantial gap between males and females. Both sexes participated far less often in the secondary role of victim. Males participated in this role twice, whereas no females participated.

The Chi-square test of independence found no

significant difference between males and females in the experimental group in the primary and secondary roles of firefighter and victim. The chi-square value of 0.97 with 1 degree of freedom was above the .05 level; therefore, the results fail to reject the null hypothesis.

Table 16

Comparison of Male Children to Female Children in the Control Group, Firefighter Play

	Male		Female		Total	
Role	n	%	n	%	n	%
Firefighter	8	(29.6)	12	(44.4)	20	(74.1)
Victim	0	(0.0)	7	(25.9)	7	(25.9)
Total	8	(29.6)	19	(70.4)	27	(100.0)

The overall participation of children in the control group was small in this unit. Females were seen in higher levels of participation, with a total of 12 instances of play as firefighter, males were seen in only 8 instances of firefighter play. Males were not seen at all in the role of victim, and females were in this role 7 times.

The Chi-square test of independence found no significant difference between males and females

involved in primary and secondary roles of dramatic play in the firefighter unit. The chi-square value of 3.98 with 1 degree of freedom was above the .05 level of significance; therefore, the results fail to reject the null hypothesis.

Table 17

Comparison of Male Children to Female Children in the Experimental Group, Hospital Play

	Male		Female		Total	
Role	n	%	n	%	n	%
Doctor	27	(29.7)	13	(14.3)	40	(44.0)
Nurse	13	(14.3)	38	(41.8)	51	(56.0)
Total	40	(44.0)	51	(56.0)	91	(100.0)

Male and female differences were apparent in the hospital unit of dramatic play for the experimental group. Males participated most often in the doctor role, while females participated most often in the nurse role. The doctor role frequency count of males was 27 compared to females which was 13. The nurse role frequency count for females was 38, compared to males who demonstrated this role 13 times.

The chi-square test of idependence found significant differences between males and females in the

experimental group involved in primary and secondary roles in hospital dramatic play. The chi-square value of 16.06 with 1 degree of freedom, was significant, therefore, the null hypothesis was rejected.

Table 18

Comparison of Male Children to Female Children in the Control Group, Hospital Play

	Male		Female		Total	
Role	n	%	n	%	n	%
Doctor	8	(29.0)	12	(44.4)	20	(74.1)
Nurse	0	(0.0)	7	(25.9)	7	(25.9)
Total	8	(29.6)	19	(70.4)	27	(100.0)

Both males and females in the control group participated in the primary and secondary roles to a lesser degree than children in the experimental group. Females chose the doctor role 12 times, compared to the males who chose this role 8 times. Males did not choose the nurse role, females chose this role 7 times.

The chi-square test of independence found no significant difference between males and females in the control group involved in primary and secondary roles of hospital dramatic play. The chi-square value of 3.98 wiht 1 degree of freedom was above the .05 level of

significance; therefore, the results fail to reject the null hypothesis.

Table 19

Comparison of Male Children to Female Children in the Experimental Group, Police Play

	Male		Female		Total	
Role	n	%	n	%	n	%
Police	66	(60.6)	31	(28.4)	97	(89.0)
Offender	12	(11.0)	0	(0.0)	12	(11.0)
Total	78	(71.9)	31	(28.4)	109	(100.0)

Of all the dramatic play units, the police play showed the highest gender differences. Males in the experimental group chose the police officer role more often than females. The frequency of male participation in the primary role was 66 times compared to the female total of 31 times. Males, likewise, chose the secondary role more often than females. The male total participation in the offender role was 12 compared to no participation by females.

The chi-square test of independence showed significant differences between males and females in the experimental group in the primary and secondary roles of police dramatic play. The chi-square value of 5.36 with

1 degree of freedom, was significant at the .014 level; therefore, the null hypothesis was rejected.

Table 20

Comparison of Male Children to Female Children in the Control Group, Police Play

	Male		Female		Total	
Role	n	%	n	%	n	%
Officer	54	(58.1)	30	(32.3)	84	(90.3)
Offender	4	(4.3)	5	(5.4)	9	(9.7)
Total	58	(62.4)	35	(37.6)	93	(100.0)

Males in the control group also participated more frequently than females in the primary role within police dramatic play. Males were seen taking the primary role of police officer 54 times compared to females who took this role only 30 times. Females were conversely involved in the secondary role more often than males. The total frequency count of females involved in the offender role was 5. Males had a frequency total of 4. Unlike the experimental group, gender differences did not lead to statistical significance.

The chi-square test of independence found no significant differences between males and females in the

control group involved in primary and secondary roles in police dramatic play. The chi-square value of 1.36 with 1 degree of freedom was above the .05 level; therefore, the results fail to reject the null hypothesis.

Gender Differences in the Experimental Group

When comparing the frequencies of participation between males and females in the primary roles of restaurant worker, firefighter, doctor, and police officer within the experimental group, some substantial differences between gender can be seen. Within unit 1, restaurant play, females took the primary role more often than males. This dramatic play unit was the only one in which the females participated in the primary role to a greater degree. The other three units, which contain roles thought to be male stereotyped by children (Papalia & Tennent, 1979; Adams, 1983) were indeed popular dramatic roles for males. Although females also participated in the male stereotyped role of firefighter, doctor, and police officer, males dominated the play nearly 2 times as often.

When comparing the frequency of participation between males and females in secondary roles, a similar pattern emerges. The secondary roles of patron, victim, and offender were all used more often by males than females.

Male and female participation in primary and

secondary roles were significantly different within three units of dramatic play. These included, restaurant play, hospital play, and police play. It was hoped that dramatic role play would become more gender-equal within the experimental group, but the opposite effect happened. Gender differences within the experimental group were substantial.

The results suggest the play props themselves may have lead to more gender segregated play groups, since the imaginative role play in the unit areas were dominated by boys. Studies have found that peer reactions (Fagot, 1977; Maccoby & Jacklin, 1987), and toy preference (Perry, White, & Perry, 1984; and Carter & Levy, 1988) does influence children's play. Perhaps the male dominated play groups reflect both the influence of gender segregated peer groups and the strength of doctor, firefighter, and police officer props as sex-typed toys for boys. Although cause and effect relationships cannot be assumed from the data presented, it seems possible that females were equally interested in non-traditional vocational roles. Even after the introduction of female role models, male dominated play groups may have been difficult for females to break into.

Both males and females in the experimental group found the role of nurse popular, although females

participated in the nurse role twice as often. The frequency with which males participated in the nurse role was important. Interestingly, the observers noted the boys displayed only positive reactions to the nursing role. The boys did imitate the adult nurse role model frequently, whereas boys in the control group did not have this as an alternative for their dramatic play. In one previous study by Allen (1979), children's interest in adult models positively influenced their stereotypes.

Gender Differences in the Control Group

In general, the frequency samples shown in all roles, were small for the control group. When comparing the frequency of participation between males and females in the primary roles of restaurant worker, firefighter, doctor, and police officer, gender differences are apparent, but not as evident as seen in the experimental group. Females in the control group participated more often than males in the roles of restaurant worker, firefighter, and doctor. Males participated to a higher level only in the police officer role.

When comparing the frequencies of participation in the secondary roles, the role played as patrons, victims, nurses, and offenders more often than their male counterparts. The chi-square anaysis of units 1 through 4 lead to no significant differences between

males and females for the control group.

The females did not show any hesitation at participating in roles that have been sex-role stereotyped for their gender. Males did not participate at all in the nurse role; they chose the male-stereotyped police officer role as often as their experimental group counter parts. The frequency totals for males and females in the control group indicated a mixture of participation in roles for gender.

The sample for all unit roles was small, the data were further analyzed by combining the experimental group participation in all four of the primary and secondary dramatic roles. A Chi-square test of independence was utilized to test the difference between males and females in the experimental group.

Table 21

Comparison of Male Children to Female Children in the Experimental Group participating in Four Units of Dramatic Play

	Male		Female		Total	
Role	n	%	n	%	n	%
Primary	203	(47.8)	135	(31.8)	338	(79.5)
Secondary	43	(10.1)	44	(10.4)	87	(20.5)
Total	246	(57.9)	179	(42.1)	425	(100.0)

When the frequency counts for primary roles of restaurant worker, firefighter, doctor, and police officer were combined for males and females in the experimental group, differences for four units of dramatic play were seen. Males participated in primary roles 203 times compared to females who participated 135 times. When the frequency counts for secondary roles of patron, victim, nurse, and offender were totalled, a more equal distribution was seen. Females participated in the secondary roles 44 times compared to males who participated 43 times.

The chi-square test of independence showed a significant difference between males and females in the experimental group participating in combined primary and secondary roles within four units of dramatic play. The chi-square value of 3.21 with 1 degree of freedom was significant at the .048 level; therefore, the null hypotheses 5 and 7 of study were rejected.

As stated, the sample for all unit roles were small, the control group data were further analyzed by combining the four primary and four secondary roles. A Chi-square test of independence was utilized to test the difference between males and females in the control group.

Table 22

Comparison of Male Children to Female Children in the Control Group Participating in Four Units of Dramatic Play

Role	Male n	%	Female n	%	Total n	%
Primary	101	(48.3)	91	(43.5)	192	(91.9)
Secondary	4	(1.9)	13	(6.2)	17	(8.1)
Total	105	(50.2)	104	(49.8)	209	(100.0)

When primary roles of restaurant worker, firefighter, doctor, and police officer were combined for males and females in the control group a difference was noted. Males participated in the primary roles 101 times compared to females who participated 91 times. When secondary roles were totalled for both males and females in the control group, a greater difference was seen. Females participated in the secondary roles 13 times compared to males who participated only four times. It was noted that all of these frequencies were smaller than those seen in the experimental group, but they were more gender equal.

Although males and females in the control group showed slightly more gender-equal role play than those in the experimental group, there was a significant

difference between males and females in the control group participating in primary and secondary roles within four units of dramatic play. The chi-square value of 5.28 with one degree of freedom was significant at the .019 level; therefore, the Null hypothesis 6 and 7 were rejected.

The results of the Chi-square tests (see tables 20 and 21), indicate that among combined units of dramatic play, male and female differences were significant for both the experimental and the control groups.

Results and Analysis of Gender-related Comments, Description of Specific Play Episodes

This section presents the results and analysis of the third set of objectives. Gender related comments, and descriptions of specific play episodes, and the use of play space within settings are included.

Objective 9 states: to describe any verbal initiating or inhibitive instances among children in both the experimental and the control group that are based on gender.

Analysis of gender-related comments

Within the four units of dramatic play for both the experimental group and the control group there were no instances of verbal initiators based on gender. In other words, no children were observed summoning, requesting, or soliciting the involvement other children

based on gender. Likewise, no verbal inhibitors based on gender were present. Children were not observed verbally restraining or inhibiting the involvement of any other children based on the gender of either subject.

Description of specific play episodes and children's reactions to the curriculum

Objective 10 states: Describe play episodes and instances of children's participation in dramatic play that may promote further understanding about their willingness or unwillingness to take non-traditional roles based on their gender.

Although the anecdotal observations did not reflect gender-related inhibitive or inviting comments, several play episodes did include gender-related dialogue. These episodes were reported by the observers, and when deemed appropriate by the researcher, presented as behavior episodes.

Play episode 1: In one segment of dramatic play for the children in the experimental group, restaurant play was proceeding as expected. Three girls and four boys were playing collectively in the area with props when a male teacher walked over to interact with them. When he asked to place an order, he said, "Who will be the cook?" One girl, standing at the cash register, shouted, "The boys are!" Indeed she was right, the four

boys were all at the table cutting playdough into French fries. Immediately the other children started to chant, "The boys are, the boys are". Adams (1983), reported that female preschool children participated less often than boys in the role of cook. In the experimental group, all of the children were encouraged to participate in dramatic play. The females took the restaurant worker role including cashier and cook as often or more often than boys.

Play episode 2: Children in the experimental group quickly responded to the teacher's encouragment of both sexes to participate in dramatic play. When the firefighter dramatic play props were out, B (male) came scooting into the area with a curly haired wig on. He said, "I'm going to be a firewoman". A male teacher replied, "Are you going to be a firewoman? Who wants to be a fireman?" At the time of this observation, B was 54 months old. His age, may be a factor in his level of understanding reflected by his comment

In a recent study , children's level of gender constancy was tested (Carter & Levy, 1988) as a component of cognitive aspects of early sex-role development. Children were assigned a "stage" according to the complexity and accuracy of their understanding of gender as a stable attribute. B, in play episode 2 is demonstrating the behavior of a child in stage III.

In Carter and Levy's study, children in stage III could accurately identify their own and other's gender and recognize constancy despite changes in wishes or desires, but they gave nonconstant responses to questions dealing with perceptual transformations. It may be that after putting on the wig, B was experiencing a perceptual transformation, and his language about being a firewoman reflected this. Another response by the teacher could have validated B's wish to pretend to be a firewoman, while also affirming his gender constancy (NAEYC, 1989).

Play episode 3: Within one segment of hospital dramatic play in the control group, one little girl said to another as she started to put on a doctors jacket, "Hey, do you see doctors on T.V. wear bows?" (M had a bow in her hair that afternoon). Then she put the jacket on the floor and said to no one in particular, "I more like being a nurse, they're more fun, gotta get nurses clothes on." Later within this same day of observation only a few children were participating in dramatic play. Another little girl said to herself, "I guess I'll just play alone, that's what I need, a doctor's coat." It is not known why M chose to pretend to be a nurse rather than a doctor in this instance. Perhaps she was indeed reflecting an individual

preference for play rather than a response to cultural stereotypes; however, her language does reflect the contradiction of wearing a bow in her hair and pretending to be a doctor.

For children in the control group hospital dramatic play became increasingly uninteresting. This is reflected in frequency counts of role participation and play episodes. Children's participation in roles also reflected behavior that substantiated a knowledge of stereotypes (see Tables 5 and 9, and play episode 3). One of the goals for learning about gender identity is to develop children's skills for challenging sexist stereotypes and behaviors (NAEYC, 1989).

Play episode 4: At one point in the hospital dramatic play within the experimental group, a teacher asked T (male) who he was pretending to be. T, who was wearing a nurses outfit, did not answer. The day before Mr. and Mrs. -- had visited the class, T was imitating things he had seen them demonstrate. Many other children were playing in the area and T was interacting with them. When T was asked once again what he was pretending to be he said quickly, "I'll be whatever J (male) is." J said, "I'm a doctor". T replied, "I'm a doctor."

Role models have been one of the most effective ways to counteract children's sex-role stereotypes in

other studies (Allen, 1979 and Liss, 1979). Despite the fact that T was presented with a role model of a male in a non-tradtional vocation, T was more interested in fitting in with his male peer than being like a male nurse.

Peer groups are influential to children engaging in behaviors considered gross-gendered. Boys who showed gross-gendered preferences were given significantly more peer criticism and fewer positive reactions (Fagot, 1979). Gender-segregation is also a common phenomenon influencing children's playmate choices. The segregation of playgroups, according to gender, is powerful in the preschool years and gets more influential as children get to primary grades (Maccoby and Jacklin, 1987; Freniere, Strayer, and Gauthier, 1984). It is not clear whether T chose to be like his friend out of fear of peer critisism, or out of a need to be in a gender-segregated peer group.

Play episode 5: During the police officer unit within the experimental group, two four year old girls were dressed as police officers. K said to S, "Are we police officers?" K continued to follow S slowly through the dramatic play setting, S was looking elsewhere. K again tried to get S's attention, this time S replied, "I want a book about a girl." S and K

went to the bookshelf and found the book S was looking for, one which showed women police officers. One of the goals of learning about gender identity according to Anti-bias curriculum (NAECY 1989), is to free children from constraining, stereotypic definitions of gender role so that no aspects of development will be closed simply because of the child's sex. In this case, it seems clear that S and K were trying something very new and needed validation from their environment that it was acceptable. They found this in a book depicting women in non-traditional roles.

Play episode 6: Later that same week, the police officer props were still being used frequently by the children. A group of about two or three girls and five or six boys were in the area. In this instance, many children were not in a police officer role, rather they were waiting for a chance to use the handcuffs. A female teacher noticed one child standing on the edge of the carpet. M (male) had just finished with the handcuffs and was ready to leave. The teacher looked at him and said, "Maybe S (female) wants a pair." The boy looked at S and then at his other friends who were also waiting for a turn. He said as he handed her a pair, "S, do you want a pair of these?" S took the handcuffs and started to play with them. Another goal of learning about gender according to Anti-bias

curriculum (NAEYC 1989) is to promote equality of development for both sexes by facilitating each childs participation in activities necessary for physical, cognitive, emotional, and social growth. By promoting a female child's interest in a non-traditional activity, this teacher was facilitating the child's growth physically, cognitively, emotionally, and socially.

Play episode 7: It was noted by the observer that on this day, when the dramatic play was dominated by lots of little boys, four girls began to play after the free choice period was over. When the transition period began in the classroom and most children started to get into their small groups, these girls saw an opportunity to play with the police officer props. They persisted until most of the props were put away, and then they found their small groups.

The dramatic play groups were gender-segregated for police officer play despite the efforts on the part of he researchers and the teachers in the experimental group to promote female use of police officer dramatic play props (see table 18). It has been found that preference for and play with same-sex-stereotyped toys is one of the earliest manifestations of sex role development in young children (Huston and O'Brien, 1985). The use of police officer props which are traditionally male, as well as the excitment and

interest created by the visiting police officers, effectively limited the opportunity for girls to play in a gender group dominated by boys. It is not known whether girls would have been increasingly active had the dramatic play continued for a longer period of time.

Description of Male and Female use of Play Settings

The final objective was developed to explore the children's use of the play space within the settings of dramatic play units. It was hoped that participation in both the converted family living area and the block/truck area would be gender equal regardless of the dramatic play unit.

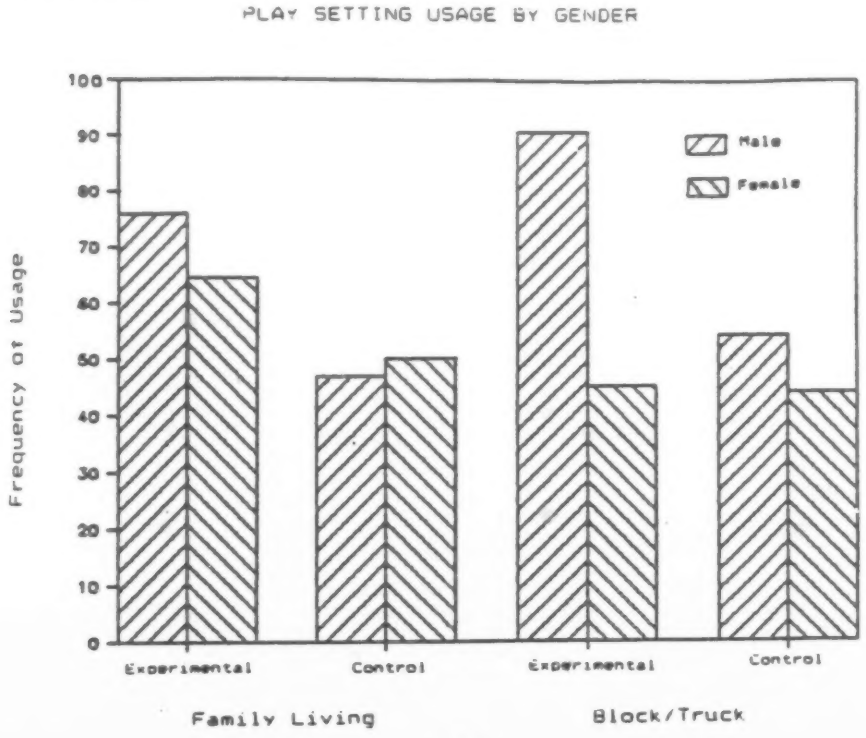
Objective 11 states: Compare and describe male and female use of the play space directly surrounding that area in which the data were collected for both the experimental and the control group.

Data were collected in two adjacent play spaces in the child development laboratory. One area contained unit 1, the restaurant dramatic play and later, unit 3, the hospital dramatic play. This area was previously the family living center of the preschool classroom. The second area contained unit 2, firefighter dramatic play, and later, unit 4, police officer dramatic play. This second area was previously the block/truck center

of the preschool classroom.

The male and female participation within these two spaces (or settings) were recorded on the instrument (Appendix A, B, C, D). Each child's participation within the setting was counted one time within the day's data collection regardless of how frequently he or she was included in any primary, secondary, or unknown, role. These single daily frequency counts for both groups were presented in a bar graph (Figure 1). Since the data collection period covered 28 days, the number of participants exceeds that actual number of children in each group. To illustrate the use of play space by gender, the converted family living area is illustrated, then the block/truck area is illustrated.

Figure 1



In the experimental group, the male used the family living play space 76 times. The females used it 64 times. In other words, of the 140 times the children used the family living space, the boys used it 54% of those times, and the girls used it 46% of the time. The slight (8%) difference between males and females use of the family living space did not seem to correspond with the earlier statistically significant differences found in dramatic play. When the area was set up as restaurant or hospital units, the males and females participated nearly equally within the primary and secondary roles (see Tables 12 and 16, line 4). However, the males entered the area more frequently than the females, to play a brief primary or secondary role, or just enter playing an unknown role.

Male and female use of the family living play space in the control group was more equally divided than in the experimental group. Males used the family living area 47 times, while the girls used it 50 times. Of the 97 times in all, the males used the family living area 48% of the time; the girls used it 51% of the time. These totals reflect the type of dramatic play divisions seen between males and females in the control group for units 1 and 3 of dramatic play (see Tables 13 and 17).

Male to female use of the block/truck play space within the experimental group showed a 90 to 45

frequency count. Of the 135 times, males used the space 66% of the time, while females used it half as often, or only 33% of the time. Despite the efforts of the researchers to maintain and encourage gender-equal play groups in the units of firefighter and police officer, gender-segregated play groups prevailed.

Male and female use of the block/truck play space in the control group was more equally divided than the experimental group. The males used the block/truck area 54 times; the girls used it 44 times. This count is converted to a 55% use of the block/truck area by males, and a 45% use of the block/truck area by females in the control group. These findings are similar to those reflecting the sex-role stereotypes children may have about firefighter and police officers (see Tables 15 and 19).

In summary, despite the efforts of the researchers to promote gender-equal play groups for all units of dramatic play, the gender-segregation phenomenon prevailed. Both the family living center and the block/truck area were used by males more often than females, when converted with dramatic play props. This finding is inconsistent with past studies by Maccoby & Jacklin in which males were dominant in the block/truck area, but not the family living area (1977). It is

noted that in the Maccoby and Jacklin studies, neither the block/truck, or family living area were converted to support any type of non-sexist intervention.

Limitations

A non-sexist curriculum was designed for implementation in an experimental group. One of the major curriculum components was the provision of male and female adult role models in traditional and non-traditional roles. Several adult models were provided, including a male and a female nurse, two male emergency medical technicians, and finally one male and one female police officer. It was noted that female role models were not provided for the doctor role, or the firefighter role, both of which are stereotypically thought of as male vocations by preschool children (Papalia and Tennent, 1975). The absence of professional female role models may have influenced the results of the study.

Since the pilot testing and the training of the observers occured in the actual study setting, the training may have contaminated the results of the study. However, the training of observers on the instrument was proportionally divided between sessions in the A.M. and sessions in the P.M. (see Table 1, P 36).

Concurrently, staffing and programming considerations in the control group session could have affected the results. No attempts to modify the control group curriculum were made. The control group was provided with the same dramatic play units and props, but not extra teacher interventions, role models, or curriculum materials. The control group session was taught by a male professor, and although the philosophy of the university child development laboratory includes non-sexist practice in the classroom, this study emphasized additional non-sexist interventions for children in an experimental group.

Summary

Hypotheses 1 through 4 of the study were rejected. There were significant differences between the participation of children in the experimental group to children in the control group. Children in the experimental group role played in dramatic play units to a greater extent than children in a control group. In the individual units, both males and females took the roles of restaurant worker, firefighter, doctor, and police officer more frequently than the males and females in the control group. When observing males and females in the roles of patron, victim, nurse, and offender, the experimental group children acted out

these roles more frequently than a control group children.

Hypotheses 5 through 8 of the study were likewise rejected. There were significant differences between males and females within the experimental group taking the dramatic roles of restaurant worker, doctor, firefighter, and police officer. Although the differences were less in the control group, the males and females also participated in these roles to statistically significant levels. There were statistically significant differences between males and females in both the experimental group and the control group participating in the roles of patron, victim, nurse, and offender.

Within the gender-related comments of the children in both the experimental group and the control group, no inviting or inhibitive statements were made. Seven play episodes contained gender-related dialogue and were reported in an anecdotal style.

The observational areas of data collecting were frequented by both males and females within four units of dramatic play. When these frequency counts of males and females were compared, it appeared that the family living and the block truck area were used more often by males than females in the experimental group. The differences between the genders were substantial.

Males and females in the control group used the block/truck area and the family living area nearly equally. Both sexes frequented the areas, with males use of block/truck space being slightly higher than that of females.

The results of this study suggest that the non-sexist curriculum influenced the behavior of children in the experimental group. Children in the experimental group role-played in the dramatic play units far more often than children in a control group. Also, children in the experimental group tended to play the non-traditional roles more often than the children in the control group.

The curriculum heightened the interest that children had in dramatic play, and may have caused children to take non-traditional roles, but it did not produce units of dramatic play that were gender equal. It is possible that gender segregated play groups, sex-typed toys, and the strength of children's sex-role stereotypical beliefs, all played a major role in the results of this study.

CHAPTER V

Summary, Conclusions, and Implications

Summary and Conclusions

A nonsexist curriculum was designed and presented for both preschool children and the adults who work with them in a university child development laboratory. The data collected during the curriculum's implementation provided some interesting insights into children's knowledge and adherance to sex-role stereotypes.

During an instructional period, the curriculum was presented to university students. It specifically acknowledged the prevalence of sexism and sexist attitudes in the preschool setting, and related teacher intervention techniques. At the conclusion of this period, the university students were instructed to help the researchers promote gender-equality in the laboratory setting in specific ways.

A curriculum for the children was developed, which promoted gender equality in the classroom. A library was also developed which promoted the depiction of males and females in non-traditional roles for their gender. Community adults, who held non-traditional careers, were visitors to the classroom. Children were encouraged to participate in equal-gender play groups, and take dramatic play roles within vocational units.

An instrument was developed to record children's participation in dramatic play vocational roles, to record gender-related comments, and to record the males and females participating in the setting. The instrument was pilot-tested and refined. Observers were trained with the instrument. When an inter-observer reliability level of .90 was reached, the data collection began.

When appropriate, the chi-square tests of independence was used. Anecdotal records of play episodes described the gender related comments, and frequencies were illustrated in a bar graph for gender differences within the play space.

Although cause and effect cannot be assumed from the data, it is possible that factors present in the experimental group did positively influence participation in dramatic play for that group. The encouragement and support by the teachers, the interaction and presentation of adult role models in non-traditional vocations, and the non-sexist images provided in the children's library, were all variables that may have influenced the higher rates of participation in dramatic play for the experimental group.

The adult intervention strategies from selected works, were considered to be of value to this study, and

served as a foundation of intervention. According to Carpenter, Huston, and Holt (1986), adult-responsive, peer-responsive, and low-responsive children, can be identified and encouraged by teachers to participate in a wider range of high and low structured activities in the classroom. The student teachers in a similar study by Citron, Connor, and Serbin (1981), used direct intervention strategies to help children experience new play behavior. Of all attempts within the preschool classroom to influence children's sex-role stereotypes, adult role modelling seems to be the most successful (Allen, 1979; Liss, 1979).

In this study, the children's exposure to non-traditional roles for their gender was increased and in many cases both boys and girls participated in a variety of traditional and nontraditional dramatic roles. Boys were only given one opportunity to participate in a role considered non-traditional for their gender, the nurse role. Girls however, could choose firefighter, doctor, and police officer. Despite this disproportionate opportunity, females did respond at a higher rate than boys, to an opportunity to participate in a non-traditional role for their gender. This finding is similar to other findings in current research.

In the aforementioned teacher intervention strategies by Citron, Connor, and Serbin, female children were more succeptable to non-sexist interventions. They were more likely to play with a masculine-typed toy if a teacher was present. Greater responses by girls such as this one would indicate that the teacher's presence may have a more powerful effect on girls than on boys (1981).

The children's dialogue and play episodes were rich with information illuminating their thinking about gender in dramatic play. In one instance, a male child pretended to be firewomen with a wig. It is not known what the cognition was behind his play, but he appeared to enjoy the humor of this transformation. In one instance a female child determined that nurses were "more fun," and changed out of a doctor's uniform into a nurse's uniform. At one point, a young boy labelled himself as doctor, after his older male peer, despite the fact that he wore a nurse's uniform, and was using nurse's props shown to him by an adult male nurse. Repeatedly, female children noticed the inclusion of non-traditional vocational roles in books and used them as validation in their play.

The influence of gender-segregated peer groups play a powerful role in children's choice of playmates throughout childhood (Maccoby & Jacklin, 1987). Sex-

role stereotypical toy preferences also influence play behavior (Perry, White, & Perry, 1984). Vocational roles, in and of themselves, are sex-role stereotyped by children (Papalia & Tennent, 1975). These three factors could have influenced the results of the study.

This curriculum heightened the interest and non-sexist participation in dramatic play, but it did not produce vocational dramatic play that was gender equal. It appeared that gender-segregated play groups were dominated by males, and the sex-typed toys may have limited female access to some play. The absence of female models for all of the vocations may have weakened the non-sexist curriculum. The children's existing sex-role stereotypes about vocation, and the lack of previous exposure to role models may have also contributed to the results of the study.

Implications

The pervasive existence of sex-role stereotypes on children's behavior has been documented repeatedly. In regard to future research efforts and attempts to change children's gender-stereotypes, several considerations have been developed. These considerations developed by Katz (1986), are as follows: 1) the child's developmental level, 2) the relationship of sex-role cognition and behavior, 3) the degree of consistency of

gender stereotyped behavior in specific situations, and 4) the role of initial individual differences in determining modification outcomes.

Further descriptive and experimentational research is sought. Continually, human subject and ethical concerns related to research should be addressed and resolved. It is not plausible that experimental research takes place without monitoring guidelines and specific controlling agents.

Further descriptive research influencing children's gender stereotypes may take the form of a multi-method intervention, possibly an interview; as well as, parent involvement. Further interventions and studies related to non-sexist curriculum may be longitudinal or cross-sectional. They may involve a random sampling of children with more control of exteraneous variables, or they may include a pretest and posttest design.

A curriculum has recently been published, through the National Association for the Education of Young Children, that provides Anti-Bias activities and instructions for professionals working with young children (NAEYC, 1989). Guidelines such as those set by NAEYC, as well as, stronger non-sexist teaching practices taught to professionals working with children are urgently needed.

The efforts of this research, in many cases,

revealed the seemingly unyielding strength of children's sex-role stereotypes about vocation. It did, however, provide for all of the goals of learning about gender for young children. According to NAEYC (1989), these are:

> to free children from constraining definitions of gender-role, so that no aspects of a child's development is closed because of gender.
>
> to foster a child's healthy gender identity by enabling them to gain clarity about the relationship between biological sex, and gender roles.
>
> to promote the equality of the sexes by facilitating each child's participation in activities necessary for physical, cognitive, emotional, and social growth.
>
> And finally, to develop children's skills for challenging sexist stereotypes and behaviors.

Development of future research and teacher training in the area of non-sexist practice, according to the guidelines set by NAEYC (1989), will continually influence the sexist beliefs of young children. A case study such as this one, perpetuates the interest and excitement of diminishing sexist beliefs, and empowers individuals to continually challenge existing sex-role stereotypes.

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Date _____ Time began _____
Observer _____ Time completed _____
Setting _____

Am Pm

Roles	Segment#1	Segment#2	Segment#3	Segment#4	Segment#5
Rest. worker					
Patron					
Unkn.					
No. M					
No. F					
final M _____					
Final F _____					
Props					
R-hat					
R-apron					
dough					
food					
stove					
o-pad					
money					
P-cups					
P-bags					
P-cont.					
register					
tele.					
Other					

gender-related comments _____

APPENDIX B

Date _____ Time began _____
Observer _____ Time completed _____
Setting _____

Am Pm

Roles	Segment#1	Segment#2	Segment#3	Segment#4	Segment#5
F-F					
victim					
Unkn.					
No. M					
No. F					

final M _____
final F _____

Props					
hat					
mask					
o-tank					
tele.					
hose					
ladder					
climber					

gender-related comments _____

APPENDIX C

Date _____ Time began _____
Observer _____ Time completed _____
Setting _____

Am Pm

Roles	Segment#1	Segment#2	Segment#3	Segment#4	Segment#5
Doctor					
Nurse					
Ukn. attend.					
Other					
No. M					
No. F					
final M _____					
final F _____					
Props					
D-robe					
D-hat					
D-bag					
N-robe					
N-hat					
p-glove					
tele.					
stethe.					
mask					
meds.					
sringe.					
arm ba.					
blanket					
cot					
x-ray					

gender-related comments _____

APPENDIX D

Date _____ Time began _____
Observer _____ Time completed _____
Setting _____

Am Pm

Roles	Segment#1	Segment#2	Segment#3	Segment#4	Segment#5
P-O					
Offdr.					
Unkn.					
No. M					
No. F					

final M _____
final F _____

Props					
P-hat					
P-badg.					
hand-c.					
tr-tick.					
f-prints					
scooter					
roads					
signs					
jail					
j-keys					
other					

gender-related comments _____